

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (canceled)

2 (currently amended): The device of claim 22, 1 wherein the surface defines at least a portion of a microwave resonant cavity.

3 (currently amended): The device of claim 22 1, wherein the thickness of the metal fitting is greater than 10 μm .

4 (currently amended): The device of claim 22, 1 wherein the surface defines at least a portion of a microwave reflector.

5 (currently amended): The device of claim 22, 1 wherein the substrate comprises an insulator.

6 (currently amended): The device of claim 22, 1 wherein the thickness of the metal fitting is less than 500 μm .

7 (currently amended): The device of claim 6, 5 wherein the thickness of the metal fitting is less than 100 μm .

8 (currently amended): ~~The device of claim 1 wherein the substrate A device for manipulating microwave radiation, comprising:~~

a mechanically stable substrate that defines the shape of a surface for reflecting microwave radiation, and has a coefficient of thermal expansion less than $5 \times 10^{-6}/^\circ\text{C}$; and

a metal fitting conforming to the defined shape, and providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness that is insufficient for independent mechanical stability.

9 (currently amended): ~~The device of claim 1 wherein the metal fitting A device for manipulating microwave radiation, comprising:~~

a mechanically stable substrate that defines the shape of a surface for reflecting microwave radiation; and

a metal fitting conforming to the defined shape, and providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness that is insufficient for independent mechanical stability and has a coefficient of thermal expansion greater than $10 \times 10^{-6}/^{\circ}\text{C}$.

10 (currently amended): The device of claim 22, \pm further comprising a braze joint that bonds the metal fitting to the substrate.

11 (currently amended): The device of claim 22, \pm wherein the metal fitting comprises silver.

12 (currently amended): The device of claim 22, \pm wherein the metal fitting comprises a wrought metal.

13 (currently amended): The device of claim 22, \pm wherein the metal fitting consists of a metal that is at least 99% pure.

14 (currently amended): The device of claim 22, \pm wherein the metal fitting is bonded to the substrate via an interference fit.

15 (currently amended): The device of claim 22, \pm wherein the metal fitting has a machined surface.

16 (currently amended): The device of claim 22, \pm wherein the metal fitting completely shields the substrate from exposure to the microwave radiation.

17 (currently amended): The device of claim 22, \pm further comprising an adhesive layer between the substrate and the metal fitting.

18 (original): The device of claim 17, wherein the adhesive layer has a thickness of less than 1.0 μm .

19 (currently amended): The device of claim 22 \pm , wherein the metal fitting has a ring shape having an inner diameter and an outer diameter.

20 (original): The device of claim 19, wherein the inner diameter is machined to

match an outer diameter of the substrate.

21 (original): The device of claim 19, wherein the outer diameter is machined to match an inner diameter of the substrate.

22 (currently amended): The device of claim 1, A device for manipulating microwave radiation, comprising:

a mechanically stable substrate that defines the shape of a surface for reflecting

microwave radiation; and

a metal fitting conforming to the defined shape, and providing the surface that reflects microwave radiation, wherein the metal fitting has a thickness that is insufficient for independent mechanical stability,

wherein the substrate and the metal fitting have a compatible thermal behavior.

23 (withdrawn): A method for making a device for manipulating microwave radiation, comprising:

providing a substrate that defines a shape of a surface for reflecting microwave radiation;

providing a metal fitting having a sufficient thickness to provide mechanical stability; and

bonding the metal fitting to the substrate, the metal fitting providing the surface that reflects microwave radiation.

24 (withdrawn): The method of claim 23, further comprising thinning the metal fitting to provide the surface after bonding the metal fitting.

25 (withdrawn): The method of claim 24, wherein thinning the metal fitting comprises machining the metal fitting.

26 (withdrawn): The method of claim 23, wherein providing the metal fitting comprises machining the metal fitting prior to bonding the metal fitting to the substrate.

27 (withdrawn): The method of claim 23 wherein the metal fitting has a thickness

of greater than 500 μ m.

28 (withdrawn): The method of claim 23, wherein providing the metal fitting comprises casting and deforming the metal fitting.

29 (withdrawn): The method of claim 23, wherein bonding comprises: providing a brazing layer between the metal fitting and the substrate; and heating the brazing layer to a brazing temperature.

30 (withdrawn): The method of claim 23, wherein bonding comprises providing an epoxy layer between the substrate and the metal fitting.

31 (withdrawn): The method of claim 23, wherein bonding comprises providing a compression fit.

32 (withdrawn): The method of claim 31, wherein bonding further comprises: cooling the metal fitting; placing the metal fitting adjacent to the substrate; and causing the metal fitting to warm to an original temperature.

33 (withdrawn): The method of claim 31, wherein bonding further comprises: heating the substrate; placing the metal fitting adjacent to the substrate; and causing the metal fitting to cool to an original temperature.

34 (withdrawn): The method of claim 23, wherein bonding comprises: packing an elastomer against the metal fitting; and applying a pressure to the elastomer to cause the metal fitting to deform.

35 (withdrawn): The method of claim 34, wherein bonding further comprises disposing an adhesive layer between the metal fitting and the substrate, the adhesive layer having a thickness of less than 1.0 μ m after applying the pressure to the elastomer.

36 (withdrawn): The method of claim 23 wherein the metal fitting has a circular shape having an inner diameter that matches an outer diameter of the substrate to a radial tolerance sufficient to provide a stable fit between the metal fitting and the substrate.

37 (withdrawn): The method of claim 36 wherein bonding comprises providing

friction between the metal fitting and the substrate to assist the stable fit.

38 (withdrawn): The method of claim 36 wherein bonding comprises providing an adhesive between the metal fitting and the substrate to assist the stable fit.

39 (withdrawn): The method of claim 23 wherein the substrate comprises an insulator.